

## **REMARKS/ARGUMENTS**

### **INFORMATION DISCLOSURE STATEMENTS**

Applicants thank the Examiner for acknowledging the Information Disclosure Statements filed on August 2, 2005 and September 14, 2005.

However, the additional Information Disclosure Statement, filed February 18, 2005, has not yet been acknowledged by the Examiner. Applicants respectfully request that the initialed copy of the PTO 1449 form accompanying this submission be returned to Applicants. A duplicate copy of the form filed on February 18, 2005 is provided herewith. The Examiner is requested to contact Applicant in the event that the Office cannot locate the original filing.

Applicants also note that yet another Information Disclosure Statement was filed March 29, 2006, after the mailing date of the present Office Action.

### **ELECTION/RESTRICTION and OBJECTION TO CLAIM 111**

In the Office Action, the Examiner acknowledges Applicants' election of a single species, indicates that the elected species is free of prior art, and states that the initial search was extended. The Examiner further indicates that the claims were examined "only to the extent that they read on the elected invention." The Examiner then goes on to suggest that the claims be amended to relate to compounds wherein Q is CO, CS or C=NR<sub>9</sub>; R<sub>3</sub> and R<sub>4</sub> are taken together to form a benzo ring; R<sub>1</sub> is ZR<sub>m</sub>; Z is (CH<sub>2</sub>)<sub>1-6</sub>; and R<sub>m</sub> is phenyl. In addition, Claim 111 is objected to as allegedly being drawn to multiple inventions. Applicants respectfully traverse.

The present claims are drawn to a single invention and restriction, to the extent that it is applicable at all, should be based only on a restriction as to species (as reflected in the Restriction Requirement previously issued in this case). In this regard, claim 1 is a genus claim (*i.e.*, generic) that links the species of claims 2-111. MPEP 809.03. Genus claims that link together species claims act to prevent restriction between inventions, even when the inventions would otherwise be divisible. MPEP 809.03.

Here, each of claims 2-111 contains all of the limitations of claim 1. Specifically, claim 1 relates to compounds of Formula X wherein R<sub>3</sub> and R<sub>4</sub> are taken together to form a substituted or unsubstituted 5- or 6-membered ring. All of the remaining independent claims specify

particular arrangements of the ring formed by R<sub>3</sub> and R<sub>4</sub>. For example, independent claim 38 specifies that the ring formed by R<sub>3</sub> and R<sub>4</sub> is



and independent claim 61 specifies that the ring formed by R<sub>3</sub> and R<sub>4</sub> is



Similar analyses apply to each of the pending independent claims.

Accordingly, claim 1 is a linking claim that should be examined with the invention elected, and if allowable, the restriction requirement should be withdrawn. MPEP 809.

#### **CLAIM REJECTIONS UNDER 35 USC §102**

Claims 1-5, 8, 9, 11-13, 15-17, 19, 23, 26, 27, 29, 34, 37-39, 83, 84, 95 and 99 are rejected as being anticipated by Kesarwani *et al.*, that allegedly discloses 3-(phenylmethyl)-2-[4-(phenylmethyl)-1-piperidiny]-4(3H)-quinazolinone anthranilic acid. Claim 1 is being amended to recite that R<sub>1</sub> is not benzyl when Q is CO; R<sub>3</sub> and R<sub>4</sub> form a benzo ring; and R<sub>1</sub> is 4-benzyl-1-piperidiny. Similarly, claim 38 is being amended to recite that R<sub>1</sub> is not benzyl when Q is CO; J, K, L and M are each CH; and R<sub>1</sub> is 4-benzyl-1-piperidiny. Accordingly, the rejection of claims 1-5, 8, 9, 11-13, 15-17, 19, 23, 26, 27, 29, 34, 37-39, 83, 84, 95 and 99 under 35 USC §102 should be withdrawn.

#### **CLAIM REJECTIONS UNDER 35 USC §112**

Claims 1, 16 and 17 are rejected as allegedly being indefinite.

With respect to the term “substituted,” the Examiner appears to suggest that the claims are indefinite because the claims do not articulate the particular moieties which facilitate substitution. However, the claim need not list every possible substituent for one of ordinary skill in the art to know what is within the scope of the claim. See *Ex parte* Lani S. Kangas, Mieczyslaw H. Mazurek, Kurt C. Melancom, Walter R. Romanko, and Audrey A. Sherman,

Appeal No. 2002-0250 (BPAI 2002) (copy attached). The claim may be broad in terms of possible R groups, but that alone does not make the claim indefinite. MPEP 2173.04.

In addition, the specification provides guidance in the interpretation of the term "substituted". Specifically, the specification at paragraph [0098] states:

In general, a non-hydrogen substituent may be any substituent that may be bound to an atom of the given moiety that is specified to be substituted. Examples of substituents include, but are not limited to, aldehyde, alicyclic, aliphatic, alkyl, alkylene, alkylidene, amide, amino, aminoalkyl, aromatic, aryl, bicycloalkyl, bicycloaryl, carbamoyl, carbocyclyl, carboxyl, carbonyl group, cycloalkyl, cycloalkylene, ester, halo, heterobicycloalkyl, heterocycloalkylene, heteroaryl, heterobicycloaryl, heterocycloalkyl, oxo, hydroxy, iminoketone, ketone, nitro, oxaalkyl, and oxoalkyl moieties, each of which may optionally also be substituted or unsubstituted.

Definitions for the term "substituent" can also be found in the literature. For example, Hawley's Condensed Chemical Dictionary 1056 (13<sup>th</sup> Ed. 1997) defines "substituent" as "[a]n atom or radical that replaces another in a molecule as the result of a reaction" (see attached).

Accordingly, one of ordinary skill in the art would understand the bounds of the term "substituted" as it is used in the present claims. Therefore, the rejection is improper and should be withdrawn.

Claim 1 is also rejected because use of the phrase "R<sub>3</sub> and R<sub>4</sub> are taken together to form... a 5 or 6 membered ring" is indefinite. However, use of the term "ring" in reference to chemical species is commonplace and definitions of the term "ring" in this context is replete in the literature. For example, Hawley's Condensed Chemical Dictionary 972 (13<sup>th</sup> Ed. 1997) defines ring compounds to include cyclic, alicyclic, aromatic and heterocyclic compounds (see attached). Hawley's Condensed Chemical Dictionary 32, 92, 322, 569 (13<sup>th</sup> Ed. 1997) then goes on to individually define the terms "alicyclic", "aromatic", "cyclic compounds" and "heterocyclic" (see attached). Accordingly, one of ordinary skill in the art would understand the bounds of the phrase "R<sub>3</sub> and R<sub>4</sub> are taken together to form... a 5 or 6 membered ring" as it is used in the present claims. Therefore, the rejection is improper and should be withdrawn.

In addition, claim 1 is rejected because the phrase "Z is a moiety providing 1-6 atom separation" is allegedly indefinite. However, those skilled in the art would readily understand that Z is a "linker" that joins R<sub>m</sub> to the ring nitrogen of the compound of Formula X. As such, the atoms in the direct chain of atoms that link R<sub>m</sub> to the ring are the atoms that provide the

separation between R<sub>m</sub> and the ring. In light of the foregoing, the rejection is improper and should be withdrawn.

Claims 13 and 16 are rejected because certain of the choices for R<sub>m</sub> and R<sub>1</sub> lack antecedent basis. Claims 13 and 16 have been amended thereby rendering the rejections moot.

Claim 17 is rejected as being improperly dependent on claim 1 because the definition for R<sub>1</sub> in claim 1 does not include heterocyclic groups. Applicants note the definitions for "alkyl", "aryl", and "cycloalkyl" at paragraphs [0054], [0062] and [0073] of the specification. From those definitions, it is clear that the terms "aryl" and "cycloalkyl" as used in the present claims encompass heteroaryl and heterocycloalkyl substituents. Specifically, heteroaryl is described a subset of aryl groups and heterocycloalkyl is a subset of cycloalkyl groups. However, solely for the purpose of clarity, claims 1, 38, 59, 61, 69, 71, 80, 83 and 95 have been amended to recite that R<sub>m</sub> is (C<sub>3-7</sub>)cycloalkyl, aryl, hetero(C<sub>3-7</sub>)cycloalkyl or heteroaryl.

In claim 17, the terms "aminoaryl," "bicycloaryl," "heterobicycloaryl" and "aminoheterobicycloaryl" are allegedly unclear. Applicants respectfully disagree as those terms are commonly used in the chemical arts and would be readily understood by one of ordinary skill. Specifically, "bicycloaryl" is defined in paragraph [0065] and "heterobicycloaryl" is defined in paragraph [0084]. With respect to these terms, the fact that "bicycloaryl" and "heterobicycloaryl" can be considered to be subsets of "aryl" and "heteroaryl," respectively, does not render the terms "bicycloaryl" and "heterobicycloaryl" unclear. In addition, the term "aminoaryl" would be understood by a person skilled in the art to refer to an aryl group having an amino substituent, especially since this convention for naming substituents is laid out in paragraph [0054] of the specification. Similarly, "aminoheterobicycloaryl" would be understood to refer to a heterobicycloaryl group having an amino substituent. Accordingly, the rejection of claim 17 should be withdrawn.


**CONCLUSION**

Applicants earnestly believe that they are entitled to a letters patent, and respectfully solicit the Examiner to expedite prosecution of this patent application to issuance. Should the Examiner have any questions, the Examiner is encouraged to telephone the undersigned.

Respectfully submitted,

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